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Additional and new lichen records from Cozia National Park, Romania

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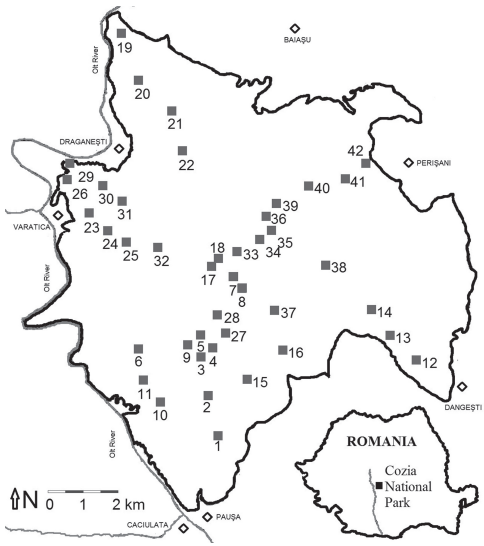
Abstract — A list of 115 lichen taxa from Cozia National Park includes 8 new records for the mycota of Romania and 77 taxa new for Cozia. Distribution and substrata are summarized, and the complete annotated species list is posted at http://www.mycotaxon.com/resources/weblists.html

Keywords — lichenized fungi, biodiversity, biota, checklist, Cozia Mount

Introduction

The present study of the lichen diversity on Cozia Mount, the primary massive area of Cozia National Park, aims to contribute to the lichen biota of Romania. As one of the most detailed lichenological surveys in recent years, the report lists 115 taxa, of which 77 are new for Cozia National Park and Valcea County and 8 are new to Romania.

Romanian lichens have been studied for over 150 years and the reports are cited in over 300 publications, including a survey of all available mycological information by Moruzi et al. (1967). Ciurchea (1998, 2007a,b) subsequently



Map of the study area — Cozia Mount and surrounding villages with sampling site numbers.

revised comprehensively the checklist of lichens and lichenicolous fungi for Romania, now available online (http://www.bgbm.org/BGBM/STAFF/Wiss/Sipman/Zschackia/Rumania/index.htm).

The lichens of Cozia Mount have previously been studied by Codoreanu & Ciurchea (1965), Ciurchea (1969, 1970), Bartók (1990), Costache et al. (2007), and Çobanoğlu et al. (2009).

Materials and methods

Cozia National Park is situated on the central-southern region of Romania, in Valcea County, inside the southern Carpathians. Cozia Mount (Ciuha Neamtului) is the highest peak, with its 1668 meter summit. It is intersected from north to south by the Olt River (Fig. 1). The climate is specific to mountain depressions without large temperature variations, with cool summers (about 20°C in July), relatively mild winters (between –5 and 0°C in January), and an average annual temperature of 9°C. Precipitation is moderate, 750–800 mm annually (Ploaie 2004).

Lichens were collected from 42 different sites on Cozia Mount, located on the East side of Olt River in Cozia National Park, Valcea County. Specimens were investigated microscopically (Olympus SZx40) and chemically by using spot tests (standard K, C, P and I) following Purvis et al. (1992). The taxa were identified to the level of species (except two genera) with the aid

of identification keys (Brodo et al. 2001, Purvis et al. 1992, Wirth 1995). The collections are preserved in the Herbarium of the Faculty of Science and Arts, Marmara University, Istanbul (MUFE), and duplicates have been stored in the Herbarium of the University of Craiova (Romania).

Results

The list of identified lichens cites 115 taxa in 61 genera in alphabetical order. Nomenclature mainly follows Index Fungorum (www.indexfungorum.com) and the recent literature (Ahti & Hawksworth 2005, Blanco et al. 2004). Author names are abbreviated according to Brummitt & Powell (1992). Eight taxa are new to Romanian lichen mycota, and 77 taxa are newly recorded from Cozia Mount. Also 26 taxa are rare for Romanian mycota according to Ciurchea (2007a,b).

Discussion

Among the 115 taxa recorded, the eight recorded as new to Romania include *Buellia griseovirens, Candelariella coralliza, Cladonia stellaris, Lecanora cinereofusca, Leproloma cacuminum, Ochrolechia inaequatula, Trapelia involuta,* and *Usnea silesiaca.* Seventy-seven taxa are new to Cozia Mount. Additionally, among the 26 species regarded as rare in Romania (Ciurchea 2007a,b) are *Cornicularia normoerica, Immersaria athroocarpa, Lecidella carpathica, Melanelia stygia, Ophioparma ventosa, Protoblastenia incrustans,* and *Sphaerophorus fragilis.* The majority of the lichen taxa designated in the list is saxicolous (89 taxa, or 77% of the total). Of the saxicolous lichens, siliceous taxa (51) are dominant followed by calcareous taxa (27), and those reported on sandstone (11). Morphologically, 81 taxa are crustose (70.4%), 20 foliose (17.4%), 9 fruticose (7.8%), one squamulose (0.9%) and four dimorphic *Cladonia* spp. (3.5%).

The present study, which represents the most detailed recent lichenological survey in Romania, provides valuable data for the lichen mycota.

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